4.10 CULTURAL RESOURCES

This section describes the historical resources present in the area of the proposed Chevron El Segundo Marine Terminal Lease Renewal Project (Project) and evaluates the potential impacts of the Project on these resources. Significant cultural resources in the Project area include structures that are collectively considered eligible for the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR). This analysis also addresses the potential for other cultural resources to be present on the Project site, including archaeological and historical resources, as well as the potential effects of the Project on these resources.

Data from various sources were used for the preparation of this section. The sources include previous environmental documentation for the Project and information from the South Central Coastal Information Center (SCCI C) through the California Historical Resources Information System.

4.10.1 Environmental Setting

Cultural resources are frequently defined in terms of tangible materials attributed to a culture. These include districts, sites, structures, networks, artifacts, and other evidence of human use considered important to a culture or community for scientific, traditional, religious, or other reasons. These resources may be historical, archaeological, architectural, or archival in nature.

The study area for cultural resources extends south from Point Dume to Palos Verdes Point. This area includes coastal beaches, bluffs and terraces, and extends five miles (8.05 kilometers [km]) out into the bay. Onshore prehistoric and historic resources occur primarily at river mouths, estuaries, sloughs, and drainages. Sub-marine prehistoric sites are also present in these same types of areas, which were exposed and then later reclaimed by the sea. Historic marine cultural resources (i.e., shipwrecks) are known in Santa Monica Bay, especially in areas of heavy traffic, navigational hazards, and heavy currents.

Santa Monica Bay has been the scene of significant events in human history for several thousand years. Humans began occupying the area approximately 9,000 years ago with small groups of people who exploited local plants and animals abundantly available near the coast. When the Spanish arrived in California, they found a group of Native Americans inhabiting the Los Angeles basin; these

people came to be known as Gabrielino because of their association with Mission San Gabriel.

Gabrielino territory lay in portions of what are today Los Angeles and Orange counties. The Gabrielino territory included the entire Los Angeles basin and the watersheds of the Los Angeles, San Gabriel, Santa Monica, and Santa Ana mountains. The northern boundary was Topanga Canyon; the southern boundary was Aliso Creek. The Gabrielino were found as far east as San Bernardino and as far west as the three southern Channel Islands (Bean and Smith 1978). They are thought to have arrived from the southern Great Basin or interior California desert. The culture of these natives is marked by complex trade systems, social stratification, and large villages. Marine resources were heavily utilized in coastal areas, while seed gathering and processing and hunting land mammals predominated inland. During the summer months, the Gabrielino moved up river drainages in small groups to take advantage of food resources and water at higher elevations. Most of the archaeological sites found in the upper drainage regions of the mountains presumably indicate seasonal or limited use, rather than permanent occupation.

The Portola expedition, which traversed inland Los Angeles County in 1769, marked the onset of the historic period. This was the Gabrielinos' first exposure to European influence. The Spanish period, which lasted from 1769 to approximately 1822, began with the arrival of Spanish- or Mexican-born people of Hispanic and Hispanic-Indian origin into southern California. Two years after the Portola expedition, in 1771, the San Gabriel Mission was founded. The subsequent Mexican period lasted from 1822 to 1848 and included the ascendancy of "Californios," people of Hispanic ancestry born in California. During this period, the San Gabriel Mission was secularized, and the land was divided into privately owned ranchos. The Mexican Period ended with the Mexican-American war from 1846 to 1848, when the area came under American jurisdiction. The area has subsequently undergone a tremendous influx of people and development.

Prehistoric Sites

Archival records at the University of California Los Angeles Archaeological Inventory Center were checked for the area encompassing the Project site (Tetra Tech 1990). More than 31 known archaeological sites are along the Santa

Monica Bay coastline and the overlooking sea bluffs and terraces. Two-thirds of these sites lie along the northern edge of the Santa Monica Bay, between Point Dume and Will Rogers State Beach. Of the 31 sites closest to the shore, 24 are on top of marine terraces and the other seven are on the shore or low bluffs. Six of these low-lying sites are next to drainages; the seventh is next to Marina Del Rey lagoon.

Between the city of Santa Monica and Palos Verdes, where the terrain is similar to that in the vicinity of the El Segundo Marine Terminal, known prehistoric sites are clustered around Ballona Creek. Farther to the south, there is also a large clustering of sites around the old Los Angeles River route. The mouth of Ballona Creek, which enters Santa Monica Bay at Marina Del Rey, is approximately 3.5 miles (3.63 km) north of the Marine Terminal. More than 20 prehistoric sites have been recorded off the Ballona Creek stormwater drainage channel, and it is a highly sensitive archaeological zone.

There are no known prehistoric sites at the Marine Terminal proper. Two prehistoric sites are recorded within two miles (3.22 km) of the Marine Terminal. Site LAn 691 is approximately two miles (3.22 km) east north-east of the subject property and is at the west end of Los Angeles International Airport (LAX) runway 25L-7R. The site record describes LAn 691 as a "shell scatter along base of steep sided hill" (Farrell 1974). No artifacts, features, or burials were noted. Apparently no excavation has been done on this site, and its depth is estimated at 0 to 12 inches. The second site is LAn 202, recorded by Eberhart in 1953; but he gave no site description and only mentioned the site was 200 feet in diameter. In 1968, Tom King attempted to relocate this site. The site area had been built over, but due to LAX expansion, the structures were being torn down. Bulldozers raked two to three feet (0.61 to 0.91 meters) below the surface to tear up pipes and foundations. King surveyed the area and found no remaining evidence of LAn 202.

The lack of nearby natural drainage, along with the low bluff location of the Marine Terminal, indicates that the subject property is not in a high-probability archaeological site locality. Ground disturbance in the subject property has been severe from initial grading and construction of the site along with subsequent upgrading of the site and miscellaneous projects. Therefore, the probability of an archaeological site at the Marine Terminal is low.

Due to lower sea levels during prehistoric times, there is a potential for prehistoric sites in Santa Monica Bay. A prehistoric site, predictive model map designates possible ancient lagoons, estuaries, and embayments extending off, and just north of, Redondo Canyon (Parsons 1995). This area is south of the Marine Terminal. These areas have the greatest potential for intact preservation of both archaeological and ecofactual deposits. If no subsequent destruction by renewed erosion takes place, an even greater probability for preservation exists.

Historic Sites

Definitions of Historical Resources

In order to be considered for listing on the NRHP, which was established to recognize resources associated with the country's history and heritage, structures and features generally must be at least 50 years old, barring exceptional circumstances. The CRHR was created to identify resources deemed worthy of preservation on a state level and was modeled closely after the NRHP. Criteria for listing on the NRHP and CRHR are described in detail in Section 4.10.2, Regulatory Setting.

Identification of Historic Resources on Project Site

In the Santa Monica Bay and along its coastline, some piers and shipwrecks have potential National Register Status. An exhaustive study of shipwreck resources ranged from Morro Bay to the Mexican Border for the U.S. Department of the Interior Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) (Pierson, Shiller, and Slater 1987). A total of 60 shipwrecks, plus two aircraft, are listed in the Santa Monica Bay area. All of these sites were examined for National Register status and 32 were potentially eligible. However, it is difficult to prejudge a shipwreck's potential for National Register eligibility until it has been surveyed. The location of each of the 62 shipwrecks in the Santa Monica Bay area ranges from exact to unknown; 46 were onshore or nearshore groundings. The California State Lands Commission's (CSLC) shipwreck database includes 63 wrecks, including one jet lifter, in the Santa Monica Bay area (1990).

Pierson developed a predictive model for shipwrecks, which states that zones of anticipated high site-concentrations would coincide with areas of heavy shipping traffic and navigational hazards (1987). The entire Santa Monica Bay shoreline,

extending out into the bay for approximately 1.5 miles (2.41 km), has been rated as a high sensitivity zone for shipwrecks, primarily because Santa Monica Bay was a major port between 1846 and 1918.

Site-Specific Characteristics

Archival records for historic sites were checked at the SCCIC for the area surrounding the Project site (SCCIC 2006). Sources reviewed by SCCIC included historic maps for the Redondo U.S. Coast Guard quadrangle (1896 and 1944), Office of Historic Preservation (2006), California Register of Historical Places (2006), NRHP, city of Los Angeles Historic-Cultural Monuments, and the California Historic Resources Inventory (2006). The maps and databases listed no historic sites at the Marine Terminal.

Several shipwrecks are located in the vicinity of the Marine Terminal, as shown in Table 4.10-1.

Table 4.10-1
Shipwrecks in the Vicinity of the Project Site

Vessel Name	Location, Date of Wreckage	Additional Notes
Putnik	Near El Segundo,1926	Gas screw vessel built in 1917 that may be eligible for National Register status. Location of this vessel is not known, and the wreck may no longer exist.
Falcon	Off the Chevron Marine Terminal Pier in El Segundo, 1945	Oil screw vessel built in 1886. Location of this vessel is unknown and it is probably not eligible for the National Register.[1]
Sea King	Santa Monica Bay, November 28, 1956	Oil screw vessel built in 1946
Spare Time	14 miles (22.53 km) southwest of Santa Monica Bay, July 28, 1952	Fishing boat, date built is unknown
Sacramento	Off Redondo Beach, December 2, 1968	Ferry built in 1877
Georgia	Off Redondo Beach, 1966	Four-mast bark built in 1901
Saint Anne of the Suns	At El Segundo on October 17, 1955	Oil screw vessel built in 1944

[1] City of Los Angeles 1990
Source: SCCIC 2006

4.10.2 Regulatory Setting

The treatment of cultural resources is governed by Federal and state laws and guidelines with specific criteria for determining whether prehistoric and historic sites or objects are significant and protected by law. Federal and state significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. Some resources that do not meet Federal significance criteria may, nevertheless, be considered significant by state criteria. The laws and regulations that seek to address and mitigate impacts on significant prehistoric or historic resources are summarized in the following sections.

Federal

The National Historic Preservation Act of 1966

The National Historic Preservation Act established the NRHP to recognize resources associated with the country's history and heritage. Structures and features generally must be at least 50 years old to be considered for listing on the NRHP, barring exceptional circumstances. Criteria for listing on the NRHP, set forth in Title 36, Part 60 of the Code of Federal Regulations (36 CFR 60), are significance in American history, architecture, archaeology, engineering, and culture as present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that meet any of the following criteria:

- Associated with events that have made a significant contribution to the broad patterns of our history;
- Associated with the lives of persons significant in our past;
- Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Eligible properties must meet at least one of the criteria and exhibit historical integrity, which is measured by the degree to which the resource retains its

historical properties and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of changes to the property.

State

The California Register of Historic Resources

The State Historic Preservation Office maintains the CRHR pursuant to Public Resources Code (PRC) Section 5020 et seq. Properties listed, or formally designated as eligible for listing, on the NRHP are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

The CRHR was created to identify resources deemed worthy of preservation on a state level and was modeled closely after the NRHP. The criteria are nearly identical to those of the NRHP, but focus upon resources of statewide significance. The criteria are set forth in Section 15064.5(a)(3) of the California Environmental Quality Act (CEQA) Guidelines and are defined as any resource that meets any of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

The CRHR includes resources listed on the NRHP.

In addition, Section 15064.5(a)(4) of the CEQA Guidelines states:

> The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public

Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1

Human Burial Remains

Sections 7060.5, 7051, and 7054 of the California Health and Safety Code collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation and reburial procedures.

Disposition of Native American Burials

Section 15064.5 of the CEQA Guidelines addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction. The section establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project and establishes the Native American Heritage Commission as the entity responsible to resolve disputes regarding the disposition of such remains.

4.10.3 Significance Criteria

Section 15064.5 of the CEQA Guidelines defines a significant cultural resource, either prehistoric or historic, as a "historical resource." The term "historical resource" includes:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4850 *et seq*.).
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the

preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852) including the following:
    - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    - Is associated with the lives of persons important in our past;
    - Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    - Has yielded, or may be likely to yield, information important in prehistory or history.
- The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1[k] of the PRC), or identified in an historical resources survey (meeting the criteria in Section 5024.1[g] of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Section 15064.5 of the CEQA Guidelines provides significance threshold criteria for determining a substantial adverse change to the significance of a cultural resource:

- Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

- The significance of an historical resource is materially impaired when a project:
    - Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR;
    - Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC; or
    - Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

4.10.4 Impact Analysis and Mitigation Measures

The focus of the impact analysis is on those resources that would be affected by maintenance and repair activities at the Marine Terminal during the 30-year lease period. Such activities may include rearrangements of the seafloor pipelines to the berths and replacement of the pipelines and pipeline end manifolds. It is estimated that these activities would occur at least once during the lease term.

According to the cultural report conducted by SCCIC for the Project area, there are no properties on the Project site listed in the CRHR (SCCIC 2006) nor a local registry of historical resources (Carter 2006). As a result, construction and operation of the proposed Project are not likely to damage or disrupt any property listed in the CRHR. However, there are previously undisturbed areas that could contain unknown historic and prehistoric resources that could be harmed during construction and maintenance.

Impact CUL-1: Damage to or Disruption of Prehistoric or Historic Resources

Construction and operation may damage, disrupt, or adversely affect an important prehistoric or historic archaeological resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminished.

Modification of pipelines could disrupt, damage, or diminish prehistoric or historic archaeological resources (Potentially Significant, Class II).

Impact Discussion

Continued operation of the Marine Terminal during the 30-year lease period will not require physical modification as a part of this action. However, if pipeline rearrangement or replacement were required, or during regular maintenance activities, it is possible that cultural resources may be encountered in previously undisturbed areas during minor excavation and grading activities, especially since a detailed cultural resources survey of the sea floor in the vicinity of the pipelines has not been conducted for potential offshore archaeological resources.

In particular, due to lower sea levels during prehistoric times, there is a potential for prehistoric sites in Santa Monica Bay to be affected by the Project (Pierson 1987). In terms of prehistoric sites, "... predictive modeling indicates that intact archaeological deposits may be found on the Outer Continental Shelf in and around paleo-embayments, paleo-estuaries, and paleo-drainages where preservation by terrestrial sedimentation took place prior to sea level encroachment." The existing pipelines may or may not be located near such sites. Physical modification of the pipelines by replacing or rearranging may disturb offshore archaeological resources. This would cause a significant impact that would be reduced to a less-than-significant level with the implementation of **MM CUL-1a**, **CUL-1b**, and **CUL-1c**.

During occasional construction and regular maintenance, impacts to cultural resources are not likely to occur, since the cultural resources report provided by SCCIC indicated that no archaeological resources exist on or within one-half mile (0.8 km) of the Project site. While not expected, the remote potential exists to unearth undocumented resources during these routine activities. Impacts would

be significant, but would be reduced to a less-than-significant level after the implementation of **MM CUL-1c**.

Mitigation Measures

If physical modifications of the pipelines or other construction activities are required during the 30-year lease period, before such activities are undertaken, the following measures would be necessary. These measures would be implemented in phases, depending on the type and quality of cultural resources found.

CUL-1a. Cultural Resources Avoidance Plan. 60 days prior to the start of any construction activities, if any structure 45 years and older will be affected by the proposed Project, the structure shall be assessed and evaluated for potential historical significance, including, but not limited to, eligibility for listing under the California Register of Historical Resources. If the resource is determined to be eligible for listing in the California Register, a cultural resources avoidance plan shall be prepared to identify means to avoid impacts to cultural resources, if feasible. If avoidance is determined to be infeasible, a research and recovery plan shall be prepared. In the event that archaeological resources are unearthed during Project subsurface activities, all earth-disturbing work within a 200-meter radius must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find. After the find has been appropriately mitigated, work in the area may resume. This shall be an ongoing process during construction (as applicable).

CUL-1b. Phase I Field Reconnaissance. Prior to finalization of the location for pipeline rearrangement or replacement and 60 days prior to the start of any construction, Phase I field reconnaissance of the offshore Marine Terminal area will gather geophysical data, including magnetometer and side scan sonar runs to identify any cultural resources. Shallow water scuba surveys may be required in areas that vessels cannot access. Findings from the analyses of the geophysical data will be compared with archival information and databases maintained by the CSLC and Bureau of Ocean Energy

Management, Regulation, and Enforcement. This shall be an ongoing process during construction (as applicable).

CUL-1c. Phase II Resource Evaluation. If resources that will be impacted are encountered and identified in Phase I, Phase II will evaluate the resource as to its eligibility to the California Register by a qualified marine archaeologist. For offshore resources, this phase consists of a survey of the identified resources using a Remotely Operated Vehicle or scuba reconnaissance, if necessary, to collect further information about the resource, such as intactness, formal identification, and information necessary to provide an evaluation of its significance to California history. This evaluation shall occur 60 days prior to the start of any construction and shall be an ongoing process during construction (as applicable).

CUL-1d. Phase III Cultural Resources Avoidance Plan. Phase III would be necessary if the resource is determined to be eligible for listing in the California Register. 60 days prior to the start of any construction, a cultural resources avoidance plan shall be prepared to identify means to avoid impacts to cultural resources, if feasible, including modifications to the location of the pipelines. If avoidance is determined to be infeasible, a research and recovery plan shall be prepared. In the event that archaeological resources are unearthed during Project subsurface activities, all earth disturbing work within a 200-meter radius must be temporarily suspended or redirected until an archeologist has evaluated the nature and significance of the find. After the find has been appropriately mitigated, work in the area may resume. This shall be an ongoing process during construction (as applicable).

Rationale for Mitigation

Implementing **MM CUL-1a** through **CUL-1d** would require complying with procedures designed to reduce any potential impacts to archaeological and historical resources to a level that is less than significant. This would be done by avoiding any identified resources if feasible, researching and recovering materials if required, and suspending work until findings can be evaluated by a qualified archeologist so as not to damage or remove resources in an unauthorized manner. Archaeological resources offshore would be mitigated by acquiring geophysical data, determining eligibility of resources to the California

Register, avoiding disturbance to the resource if feasible, and suspending work until findings can be evaluated by a qualified archaeologist so as not to damage or remove resources in an unauthorized manner.

Table 4.10-2
Summary of Significant Cultural Resource Impacts and Mitigation Measures
Proposed Project

Impact	Mitigation Measures
CUL-1: Damage to or Disruption of Prehistoric or Historic Resources	**CUL-1a.** Cultural Resources Avoidance Plan **CUL-1b.** Phase I Field Reconnaissance **CUL-1c.** Phase II Resource Evaluation **CUL-1d.** Phase III Cultural Resources Avoidance Plan

4.10.5 Impacts of Alternatives

No Project Alternative

Under the No Project Alternative, Chevron's lease would not be renewed and the existing Marine Terminal would be subsequently decommissioned with its components abandoned in place, removed, or a combination thereof. Under the No Project Alternative, alternative transportation of crude oil would need to be in place prior to decommissioning the Marine Terminal As described in Section 3.0, Alternatives, under the No Project Alternative, Chevron would pursue alternative means to transport crude oil, including existing pipeline systems, trucks, rail, and new pipelines. After the Marine Terminal is closed, Chevron would immediately consider options for other uses of the site, including doing nothing for the foreseeable future, transforming the site to a distribution terminal, or removing equipment and cleaning the site to prepare it for alternative uses. The third option would require dismantling and removing equipment, excavating and treating soils, and removing piping, tanks, and other structures, which would extensively disturb the onshore and offshore Marine Terminal and Refinery area.

Impacts similar to those described under **CUL-1** for the proposed Project could occur with the No Project Alternative. That is, cultural materials may be encountered in previously undisturbed areas during facility closure and clean-up. If cultural resources are encountered during ground-disturbing activity, work shall

stop immediately and an archaeological monitor will determine the appropriate procedures. Offshore and onshore activities will be mitigated by Phase I through Phase III procedures, as required by **MM CUL-1a** through **CUL-1d**, which are presented with Impact **CUL-1**.

CBM Relocation in State Waters for Crude Only

Relocating or replacing the existing conventional buoy mornings (CBM) into deeper water would involve removing the existing buoys for Berth 4, installing new buoys in deeper water, extending the existing pipelines that serve Berth 4, replacing some equipment, and modifying certain onshore Marine Terminal pumping facilities.

Due to the extension of pipelines that serve Berth 4 under this alternative, Impact **CUL-1** would occur, as described for the proposed Project. Implementing **MM CUL-1a** through **CUL-1d** would be required as described for the proposed Project.

Impact CUL-2: Damage to or Disruption of Prehistoric or Historic Resources During Offshore Activities

Offshore activities during construction of the conventional buoy mooring could disrupt or damage historical resources such as historic wharves, piers, and shipwrecks (Potentially Significant, Class II).

Impact Discussion

Although no prehistoric or historical site has been definitively identified within the area west of the Marine Terminal where the buoys would be relocated under this alternative, there is potential for their occurrence and the possibility of disturbance. These resources could include historic wharves, piers, and shipwrecks. Impacts to these historical resources would be significant, but would be reduced to a less-than-significant level with the implementation of Phase I through Phase III procedures, as required by **MM CUL-1a** through **CUL-1d**.

Mitigation Measures

Implement **MM CUL-1a** through **CUL-1d**.

Rationale for Mitigation

Implementing **MM CUL-1a** through **CUL-1d** would require complying with procedures designed to reduce any potential impacts to archaeological resources to a level that is less than significant by acquiring geophysical data, determining eligibility of resources to the California Register, avoiding resources where feasible, and suspending work until findings can be evaluated by a qualified archeologist so as not to damage or remove resources in an unauthorized manner.

Table 4.10-3
Summary of Significant Cultural Resource Impacts and Mitigation Measures
CBM Relocation in State Waters for Crude Only Alternative

Impact	Mitigation Measures
CUL-2: Damage to or Disruption of Prehistoric or Historic Resources During Offshore Activities	**CUL-1a, CUL-1b, CUL-1c,** and **CUL-1d**

SPM Replacement in State Waters for Crude Only

Under this alternative, the Marine Terminal would continue to operate, but the existing Berth 4 CBM would be decommissioned and replaced with a single point mooring (SPM) farther from shore in State waters. Impact CUL-1, as described for the proposed Project, would occur under this alternative due to the extension of pipelines that serve Berth 4. Implementing **MM CUL-1a** through **CUL-1d,** as described for the proposed Project, would be required under this alternative.

The SPM alternative presents a relatively greater chance of encountering and disturbing cultural resources because of the larger area of disturbance due to the larger hoses and the longer length of the pipeline system (3 miles [4.83 km]). This impact would be the same as CUL-2 for the CBM alternative Implementing **MM CUL-1a** through **CUL-1d**, as described for the proposed Project, would be required under this alternative.

Table 4.10-4
Summary of Significant Cultural Resource Impacts and Mitigation Measures
SPM Relocation in State Waters for Crude Only Alternative

Impact	Mitigation Measures
CUL-2: Damage to or Disruption of Prehistoric or Historic Resources During Offshore Activities	**CUL-1a** through **CUL-1d**

VLCC Use of Pier 400

Under this alternative, the Marine Terminal would continue to operate, but a portion of the Marine Terminal operation, very large crude carriers (VLCC), would use the recently permitted Pier 400 facility in the Port of Los Angeles (POLA). Under this alternative, all exports of refined product and imports of heavier crude oil would continue using the existing Marine Terminal and as such would have the same impacts and mitigation as those for the proposed Project. This alternative could use existing pipelines, with some pipeline modification required. However, all of the Chevron and other pipelines originate or terminate close to the POLA. This area is considered previously disturbed and it is unlikely that any new impacts would occur as a result of the pipeline modifications, nonetheless historic or prehistoric resources may be damaged or disrupted during modification (Impact **CUL-1)**. Implementing **MM CUL-1a** through **CUL-1d**, as described for the proposed Project, would be required under this alternative.

4.10.6 Cumulative Projects Impact Analysis

Cultural resource impacts related to the proposed Project would be minor, and would be reduced to less-than-significant levels with mitigation for the proposed Project. Related projects do not include widespread changes to the Santa Monica Bay or areas with significant potential for encountering cultural materials. As such, the existing historic fabric of the area is anticipated to largely remain unchanged. Individual projects that could affect existing resources would be reviewed and mitigated, similar to the proposed Project. Cumulative impacts would be less than significant. The proposed Project's potential to disturb resources during maintenance activities would be mitigated; and its contribution to cumulative impacts would not be considerable.